

Abstract

[0039] Imaging system for a microscope based on extreme ultraviolet (EUV) radiation. The present invention is directed to a reflective imaging system for an x-ray microscope for examining an object in an object plane, wherein the object is illuminated by rays of a wavelength of less than 100 nm, particularly less than 30 nm, and is imaged in a magnified manner in an image plane. In the imaging system, according to the invention, for a microscope based on extreme ultraviolet (EUV) radiation with wavelengths in the range of less than 100 nm, with a magnification of 0.1x to 1000x and a structural length of less than 5 m, at least one of the imaging optical elements 2 and 3 in the beam path has a diffractive-reflective structure which is arranged on a spherical or plane area and has a non-rotationally symmetric, asymmetric shape. The arrangement according to the invention provides an imaging system which avoids the disadvantages of the prior art and ensures a high imaging quality. The manufacturing cost remains reasonable due to the exclusive use of spherical mirrors.